M. Conilogue.

Safe Sites OF COLORADO

INTERNAL CORRESPONDENCE

DATE: September 22, 1995

TO: D. C. DelVecchio, Risk Reduction 776/777/779, Bldg. 776, X3697

FROM: S. B. Miller, Building 779 Operations, Bldg. 779, X5559

SUBJECT: TANK T-5 CLOSURE ISSUE - SBM - 039- 95

The purpose of this memo is to provide details concerning the issue uncovered while conducting the triple-rinse required for the closure of T-5. This memo corrects information transmitted through the attached "E-Mail".

An Operations Order was written detailing the flushing requirements for each section of the T-5 ancillary system. A drain study confirming that all sections did not drain to sanitary waste was utilized as the basis for the knowledge that all sections were process waste. The sinks were drained sequentially based on their distance from the tank. The first five sinks were rinsed and drained without issue. The T-5 tank is open and liquid draining into the tank can be seen. The next sink was located in room 220. Approximately 40 gallons of water with Trisodium Phosphate was drained down through the line, but did not appear at the T-5 tank. Immediately, a "sweep" was made of the facility to ensure that there was no leak in the line. A call was then placed with the Sewage Treatment Plant within minutes, to notify them of the problem so that they could determine if "soapy" water was appearing there. The STP diverted flow, and did find foaming approximately 30 minutes later.

In order to confirm the destination, pink dye was added to an additional 30 gallons or so of water and drained down the line. While waiting for notification from the STP, drawings of the system were pulled, the lines were again walked down, and rounds were made outside the facility, to determine if there was another destination point. After one hour, no pink liquid was found at the STP. Drawings were reviewed again, and since the line appeared to be gravity-fed, calls were placed through the Shift Superintendent to each facility downhill from Building 779 to look for pink liquid. All facilities denied any evidence of pink liquid. Calls were then placed to all other facilities to determine if the water had been sent to some other facility. Again no liquid was found. Final rounds were made outside the facility to ensure that the liquid was not in a temporary "holding" area. At 10:30 pm, a decision was made to send the staff home based on the fact that it was a limited quantity of water, and that all notifications were made.

On Wednesday morning, the search continued, again walking down the lines, including the vent lines, to determine if there were other connecting sinks to this area. At the same time, another group was walking down old process lines which were shown on a drawing to have been abandoned, and which were unknown to the facility personnel. A four inch process line was found to be blanked-off with a one inch pipe nipple and valve welded on to the end. The valve was opened, and the pink liquid was located.

It was determined that this line ran down under the facility, and had been abandoned several years ago. When the line was opened, over 200 gallons of water was found. This water was pink at the beginning, and was rusty at the end of the draining. The valve was again opened September 22, and more pink water drained out. From the drawings, it appears that this line runs throughout many sections of the facility, and may have been utilized without having been drained on numerous occasions. Additional liquid from this valve would be expected, as liquid had been backed up throughout the facility.

Through RCRA Permitting and Compliance, it has been determined that this line was never a part of the permitted T-5 system, and was not determined to have been hazardous process waste. A letter confirming this information has been requested. A determination has yet to be made concerning the need for additional cleaning of this line.

If you have any further questions, or require additional information, please call me on X4343, or digital pager 3506.

sbm

cc:
W. A. Franz

Inbox

Received: SEPTEMBER 19, 1995 21:35 Sent: SEPTEMBER 19, 1995 21:20
From: Silverman, Mark <EXTERN.JSG:SILVRM@paris.rfets.gov>
To: @paris.rfets.gov
Subject: Unknown drain in B-776
Cc: GVOORHEIS@rmtxgW1.rfets.gov WALIRC@paris.rfets.gov
Reply-to: EXTERN.JSG:SILVRM@paris.rfets.gov

---------- Forwarded with Changes ----------
From: Phil Harting at RFO-02
Date: 9/20/95 8:06AM
To: Mark Silverman at RFO-01
To: Jim Hartman at RFO-01
To: Michael Weis at RFO-04
To: Adrian Wilson at RFO-01
To: Jerry Stansberry at RFO-04
*To: Ted Anderson
*To: Brian Jones
Subject: Unknown drain in B-776

THIS IS A LONG-STANDING PROBLEM, THAT COULD CAUSE US SOME GRIEF WITH THE STATE.

On Tuesday, 9/19/95, at about 6pm, B-776 personnel were cleaning sinks with Trisodium Phosphate - TSP (Na_3PO_4). The sink drains were expected to drain to process waste collection tanks in 776. When cleaning one of the sinks, level in the process waste collection tank did not rise as expected.

As a precaution, 776 called the sewage treatment plant (STP) and informed them that this sink may have drained to the sanitary sewer system. The STP operators isolated the south catch basin in 990 and reported some foaming (which would be expected from TSP).

The catch basin is being isolated pending results from samples checking for radioactive contamination, after which, the influent can be treated through the STP (if negative).

After the catch basin was isolated, a dye test was performed on the sink to verify where the drain is directed. The d/e did NOT show up at 990. The foaming MAY have been from all the cleaning of restrooms after the dayshift.

K-H/RMRS is continuing to investigate what happened.

Phil (x3131, d3008)

----- End of Message -----

2

F6 · 779 - Closure T-5
extra copy

RMRS Rocky Mountain Remediation Services, L.L.C.
. . . protecting the environment

DATE: September 29, 1995

FROM: KWT Kirk W. Ticknor, RMRS Permitting and Compliance, T130C, X6344

TO: S. B. Miller, Building 779 Operations, Bldg. 779, X5559

SUBJECT: APPROVAL FOR CLOSURE OF T-5 TANK SYSTEM - KWT-035-95

RMRS Permitting and Compliance (P&C) has received your request (attached) to close the RCRA 90-Day Tank T-5 in Building 779 (i.e. 90-Day Tank #779-1314). The purpose of this letter is document RMRS P&C approval of the closure of the T-5 Tank System.

Background:

a. An operations order was written to document the procedure used to clean, flush, rinse, and sample the T-5 Tank System. The operations order described the extent of the system and conservatively required cleaning, flushing, and rinsing of all drains and piping in Building 779 that could connect to T-5 and could have contained hazardous waste. The operations order also conservatively assumed that both RCRA heavy metals and F-listed organic solvents were managed in the system.

b. During the weeks of September 18 and 25, the operations order was implemented to clean, flush, and rinse the T-5 Tank System. The drains were washed with trisodium phosphate, which is recommended by the Rocky Flats Part B Permit for decontamination of systems contaminated with RCRA heavy metals and organic solvents. The drains were then rinsed. After that, the tanks were cleaned to remove sludge. Finally, the entire system was triple rinsed and a composite sample was drawn from T-5. Each drain was washed and rinsed with approximately 60 gallons of solution. In addition, a background sample of the tap water that was used for rinsing was obtained. I visually observed the sampling event on September 26, 1995.

c. Some drains originally identified in the operations order were found during the evolution to not connect to the T-5 Tank. These drains were in Rooms 220, 223, 113 (old floor drain), and 162 (old floor drain).

3

Discussion:

a. The sampling event was properly performed using appropriate sampling procedures. Data from the final rinse is summarized as follows (data attached):

1. Heavy Metals: Wastewater in the tank was originally characterized as potentially exhibiting the toxicity characteristic for lead and chromium. After the final rinse on September 26, 1995, lead was not detected in either the sample or the duplicate sample of the final rinse water (the detection limit for lead was 50 ppb). The chromium concentration in the final rinse water was 53.6 ppb (slightly above the detection limit for chromium of 50 ppb). Chromium was not detected in a duplicate sample of the final rinse water. The chromium concentration is not a hazard because it is well below the limit for the characteristic of toxicity (i.e., 5000 ppb), is below the Federal drinking water standard for chromium (i.e., 100 ppb), and is approximately at or below Colorado's drinking water standard for chromium (i.e., 50 ppb).

2. Volatile Organics: Wastewater in the tank was originally characterized as potentially containing F001, F002, F003, and F005 solvents and potentially exhibiting the characteristic of toxicity for benzene, carbon tetrachloride, chlorobenzene, chloroform, and trichloroethylene. After the final rinse on September 26, 1995, the only detected volatile organics that could be indicative of these waste forms were acetone, chloroform, 1,1,1-trichloroethane (TCA), and toluene. Acetone was detected but near the detection limit and at concentrations similar to those found in the blank. Thus, acetone was probably a laboratory contaminant. Chloroform was detected at approximately 50 ppb, but was also detected in the unused tap water at a higher concentration. Thus, the most likely source of chloroform was the tap water. TCA was detected at 5.6 ppb and 5.8 ppb in the duplicate sample, which is only slightly above the detection limit of 5 ppb. Toluene was detected at 100 ppb and 110 ppb. The source of the toluene and TCA was not known, but possibly could have been from machining oils, residual solvents in the system, or could be inherent to the PVC pipe in the system.* In any case, the TCA concentration was not a hazard because it was well below the Federal and Colorado drinking water standards for TCA (i.e., 200 ppb). Similarly, the toluene concentration was not a hazard because it is well below the Federal drinking water standard toluene (i.e., 1000 ppb). (Note: there is no Colorado drinking water standard for toluene.)

* R. J. Walker letter RJW-003-95 dated February 17, 1995 presented data from a mock-up of an unused PVC pipe that was filled with unused tap water. The tap water was sampled after being held in the pipe for a few days and toluene was detected at a concentration of 180 ppb. This data supports the theory that TCA or toluene could be inherent to the T-5 piping system.

Even though the toluene and TCA levels were sufficiently low for purposes of closure, Building 779 Operations decided to further clean and flush the system as a best management practice. On September 28, 1995, all drains were washed with more trisodium phosphate and flushed with more tap water. On the morning of September 29, 1995 the tanks were sampled again for volatile organics. Mike Conilogue observed the sampling event and reported that the final rinse water was cleaner than the rinse water that was sampled on September 26, 1995. The results of this sampling (data attached) showed that toluene was no longer detected in the rinse water and TCA was detected but below the practical quantitation limit of 5 ppb.

b. It is acceptable to not have rinsed the drains and pipes associated with rooms 220, 223, 113 (old floor drain not the sink), and 162 (old floor drain) as my review of the RCRA Part B Permit Application dated March 30, 1990 indicates that these drains were never considered to be part of the T-5 90-Day Tank System. Since these pipes are not part of the 90-Day tank system, closure is not required and disposition of these pipes can be left to Building D&D. (Note: According to Mike Conilogue, the drain in Room 220 was thought to be part of the T-5 Tank System and was filled with water for flushing. After filling the drain with water, it was discovered that the drain did not connect to T-5. Therefore, the flushing was discontinued and the low point of this portion of piping was drained until no more liquid came out of the line).

c. Building 779 serves as secondary containment for the T-5 Tank System. Normally the secondary containment and soils beneath a 90-day tank system must be addressed as part of closure. However, the Historical Release Report (HRR), dated June 1992, identified Building 779 as a Potential Area of Concern (PAC) #UBC-779 due to under building contamination. Also, T-5 is currently part of the original process waste line (IHSS #121, OU 9) and, thus, the containment beneath the tank and abandoned portions of the T-5's piping will be investigated and remediated pursuant to the IAG. Therefore, it is not necessary to investigate or clean the secondary containment or abandoned pipes that were associated with T-5 before it became a 90-day tank system as this will be done at a later date pursuant to the IAG.

d. The preceding discussion and analytical data (showing all constituents of concern being below detection limits) demonstrates that this system is sufficiently clean to close the T-5 Tank System pursuant to Sections 262.34 and 265.111 of the Colorado Hazardous Waste Regulations, which requires closure to be performed to minimize the need for further maintenance, and minimize risks to human health and the environment.

Action requested: Based on the discussion above, RMRS P&C approves your request to close the T-5 90-day tank system. Please take the following actions upon receipt of this letter:

1. Remove all hazardous waste signs associated with this system.
2. Place a copy of this letter in your operating record for the T-5 Tank.
3. Cease RCRA inspections of the T-5 Tank System.

5

I commend your efforts to close this 90-day tank system in order to reduce regulatory liability and eliminate the cost of RCRA inspections and maintenance. If you have any questions pertaining to this matter, please call me at extension 6344.

Attachments: as stated

cc (w/o attachments):
M. M. Conilogue, SSOC
D. DelVecchio, SSOC
W. A. Franz, SSOC
D. L. Gorman, SSOC
C. Gibson, SSOC
T. M. Karas, SSOC
B. McGuirre, SSOC
W. Wierzbicki, SSOC
M. Durel, RMRS
E. Espinosa, RMRS
C. C. Jierree, RMRS
J. P. Schmuck, RMRS
B. Shelton, RMRS
N. Van Tyne, RMRS
M. Wheeler, RMRS
K. G. Peter, K-H
J. K. Wrapp, K-H

DATE 6/13/95

ROCKY FLATS PLANT

TO MA Plankington	DEPT. 707 Ops	BLDG. 707
FROM KIRK TICKNOR	DEPT. RCRA PIC	BLDG. 130C
		PHONE 6344

MEMORANDA

"SAY IT IN WRITING"

MESSAGE:

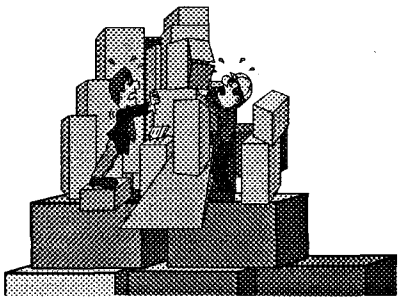
It is my understanding that acids and some F-listed solvents (eg. F001, F002) were managed in the T-5 90-day tank system in Bldg 779. Based on Table 2 of Part IX of the RCRA Part B Permit, I recommend using 4 lbs TRISODIUM PHOSPHATE TO APPROX 10 gallons water to clean the system for closure. I also recommend getting background metal and volatile organic samples of the water used for final rinse sampling.

cc: Bryan Shelton

K. Tickner
SIGNATURE

RF-34700 (7/84)

Regulatory Strategy Building 779 D&D



Vision Statement

- Complete the D&D of Building 779
  - On time;
  - Within budget ; and
  - Meeting all milestones.

Regulatory Goals and Objectives

- Identify all regulatory requirements that must be met prior to commencement of D&D operations.
- Determine what options are available that meet all these requirements.
- Select the best regulatory "path forward" for this project that will help ensure its success.

Today's Situation

- An aggressive milestone of 18 months has been established for completion of this project.
- The site's Decommissioning Project Plan and 779's Decommissioning Operations Plan are not completed.
  - Estimated time of completion:
  - DPP--2 1/2 months; DOP --1 1/2 months.

How Did We Get Here?

- RFCA allows for RFCA Standard Operating Protocols (RSOP) for routine environmental remediation and/or decommissioning activities . The DPP was developed as a D&D RSOP.
- The 779 DOP was not intended to be a "stand alone document" but was to be supported by the DPP.

How Did We Get Here?

- Unfortunately, review and editing of the DPP is scheduled to be completed in approximately one month. After that there will be a 45 day public comment period followed by comment resolution.
- The 779 DOP must be modified to be a "stand alone" decision document complying with all the elements of an Intermim Remedial Action (IRA).

8/8